

International Aircraft Materials Fire Test and Systems Fire Protection Forum Meeting

Short Takes and Current Projects

Presented to: IAMFT and IASFP Forums,
EASA Headquarters, Cologne, Germany

By: Tim Marker, FAA Technical Center

Date: June 13, 2023



**Federal Aviation
Administration**



Materials and Systems Forum Meetings

...historically...

International Aircraft Materials Fire Test Forum (formerly IAMFTWG):

March

June

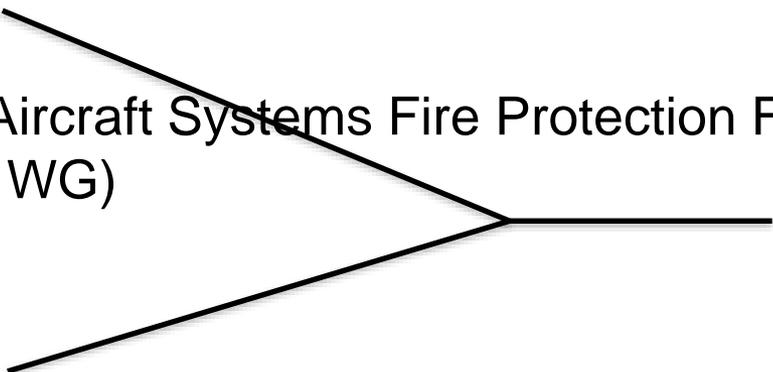
October

International Aircraft Systems Fire Protection Forum (formerly Halon Replacement WG)

May

October

combined

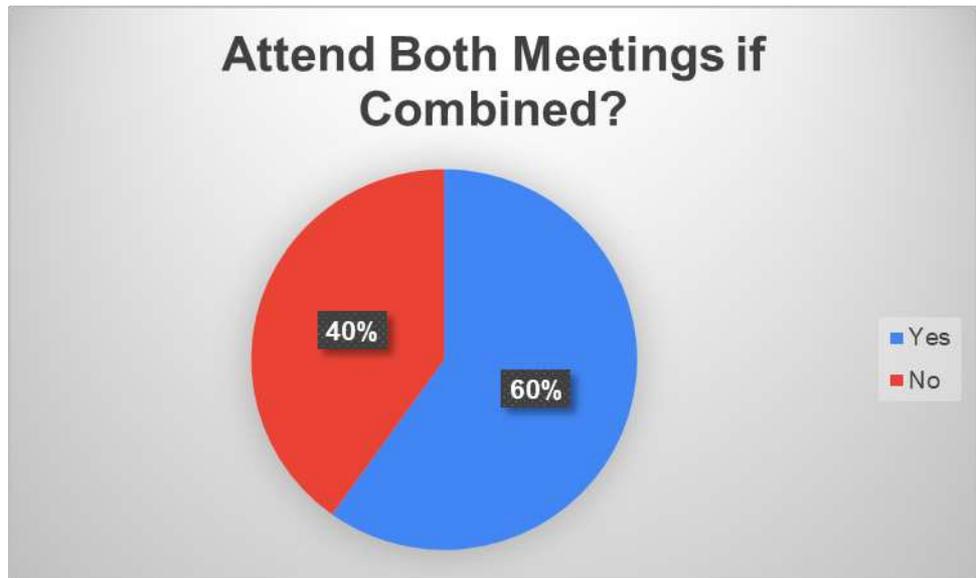


Materials and Systems Forum Meeting Questionnaire

(questionnaire results originally presented at March 2020 meeting in Mobile, AL)

Question 4 (Would you attend a combined Materials/Systems Meeting)

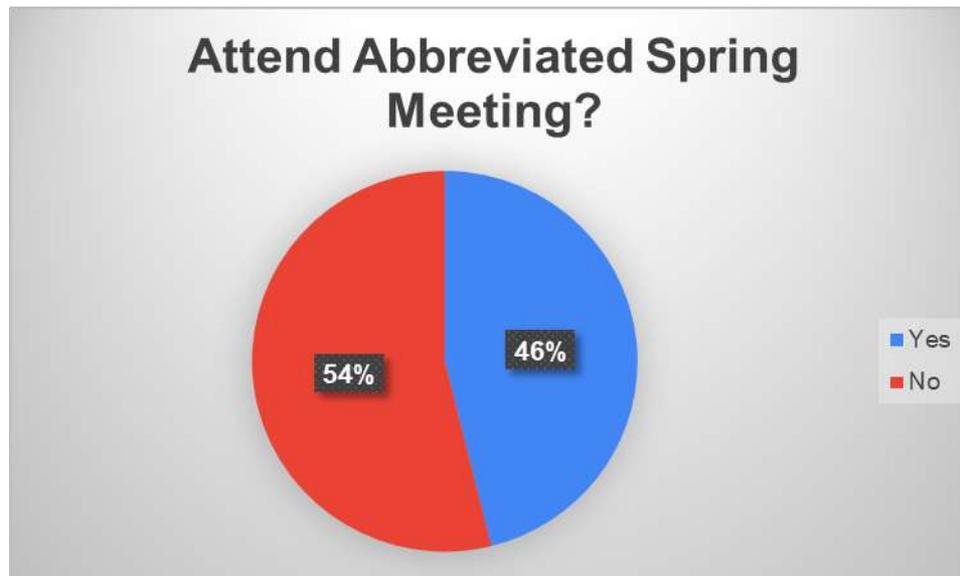
In the past, the FAA has combined the Fall Materials and Systems Forum meetings, to allow participants the option of attending both meetings in one week. By minimizing travel expenses, this option has boosted the attendance of both meetings. The FAA is planning to expand this format, and combine the summer meetings in Europe as well. The planned agenda would be a 3-day event, with the Materials Forum starting on Tuesday, and finishing just prior to lunch on Wednesday. The Systems Forum would begin after lunch Wednesday, and finish after a full day on Thursday. Given this proposed format, would you attend both meetings?



Materials and Systems Forum Meeting Questionnaire

Question 5 (Abbreviated combined Materials/Systems Meeting, would you attend)

The Materials Forum has traditionally conducted 3 meetings annually, while the Systems Forum has conducted 2. In an effort to further coordinate the output of both meetings, the FAA is considering conducting an abbreviated Spring meeting in the February time frame. The meeting would not involve Task Groups, but rather a status update on targeted areas of each Forum. One option would be to conduct two 1-day meetings of each Forum. Given this proposed format, would you attend both meetings?



Materials and Systems Forum Meetings

...way forward...

3-Day Combined Meeting in Europe (June*)

4-Day Combined Meeting in Atlantic City (October)

~~2-Day Combined Meeting in U.S. (Feb)~~

Reasoning:

- virtual meetings greatly improved during pandemic, which allow greater flexibility for task group meetings.
- hard to justify an abbreviated 2-day meeting in February.

*June meeting should be moved up to March or April if possible

Materials and Systems Forum Meetings

3-Day Combined Meeting in June...

Research Project Areas (RPAs)

Cabin Safety

Long Range Research

Cargo

Hazmat

Powerplants

Materials and Systems Forum Meetings

4-Day Combined Meeting in October...

Day 1 Materials Forum (8am to 5pm)

Day 2 Materials Forum (8am to 5pm)

Day 3 Systems Forum (8am to 5 pm)

Day 4 Systems Forum (8am to 5 pm)

...to be held at the National Aviation Research and Technology Park...

NARTP

National Aviation Research and Technology Park



National Aviation Research and Technology Park “Thunder Room”



National Aviation Research and Technology Park

Pros...

- Directly adjacent to FAATC
- Auditorium-style seating, excellent acoustics
- Hybrid option capability
- Non-combined Materials and Systems meetings
- Task Group meetings possible at FAATC
- Safe, secure facility, ample free parking
- No cost!!

Cons...

- Seating capacity limited to 70
- Slightly reduced dining options

October 16-20

Questions on Meeting Schedule?



The Tenth Triennial International Aircraft Fire and Cabin Safety Research Conference

October 17-20, 2022

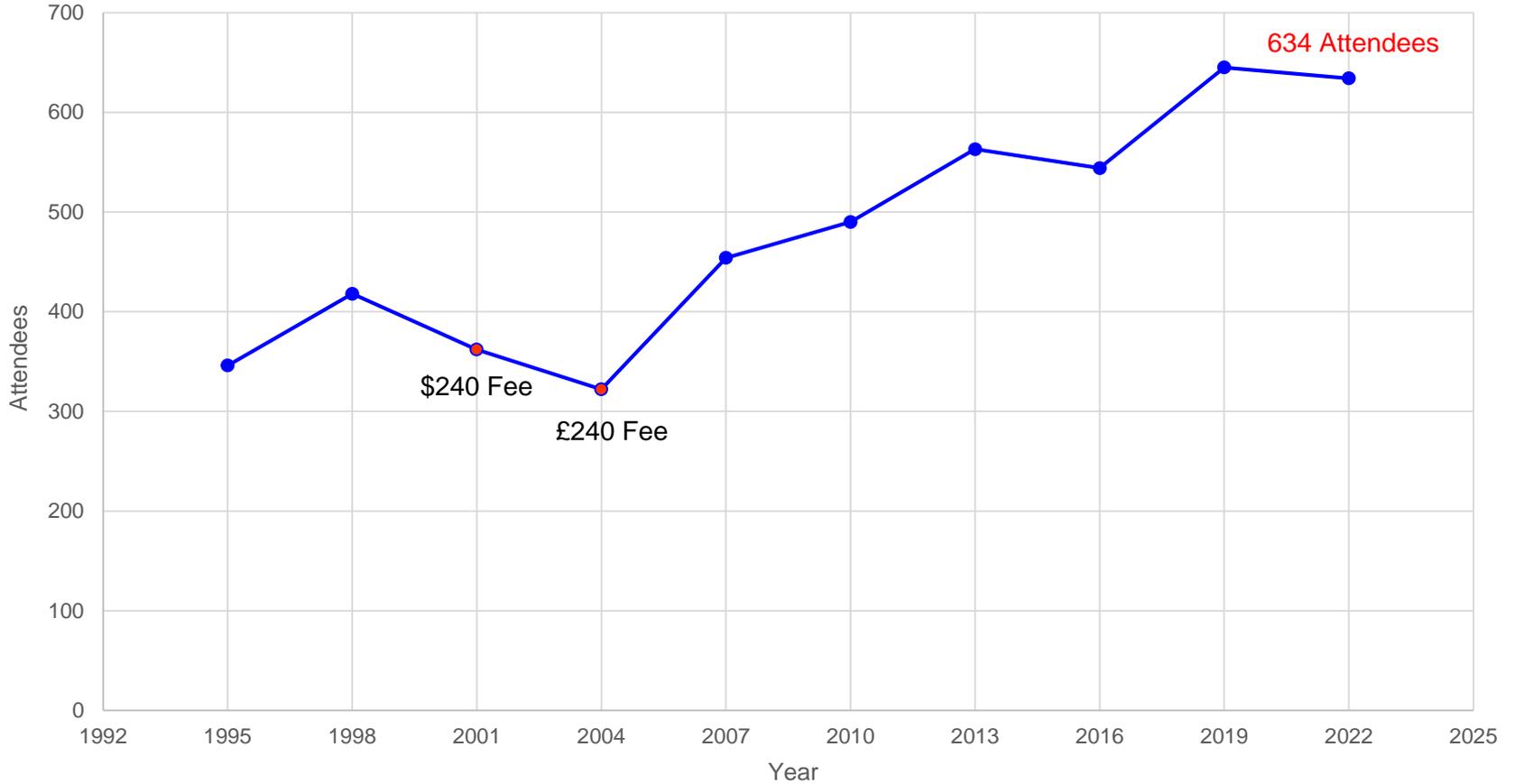
Resorts Casino-Hotel, Atlantic City, New Jersey, USA



Sponsored by International Aviation Authorities

Conference Statistics

Fire and Cabin Safety Research Conference Attendance



Conference Statistics

Countries Represented (23):

Australia

Austria

Belgium

Brazil

Canada

France

Germany

Israel

Italy

Japan

New Zealand

Peru

Phillipines

Singapore

South Korea

Sri Lanka

Sweden

Switzerland

The Netherlands

Turkey

United Arab Emirates

United Kingdom

United States

Conference Statistics

Aviation Authorities:

<u>Total FAA:</u>	<u>88</u>
FAA Technical Center:	27
FAA CAMI:	5
All Other FAA:	56
European Union Aviation Safety Agency (EASA):	3
National Agency of Civil Aviation (ANAC):	3
Civil Aviation Bureau of Japan (JCAB):	2
Civil Aviation Authority of Singapore (CAAS):	2
Transport Canada Civil Aviation (TCCA):	4
Civil Aviation Authority of New Zealand (CAANZ):	1
French Civil Aviation Authority (DGAC):	1

Conference Statistics

Airframe Manufacturers:

Boeing:	68
Airbus:	23
Embraer:	13
Gulfstream:	10
Bombardier:	8
Airbus Rotorcraft:	2
Boom Supersonic:	2
Israel Aerospace Ind:	1

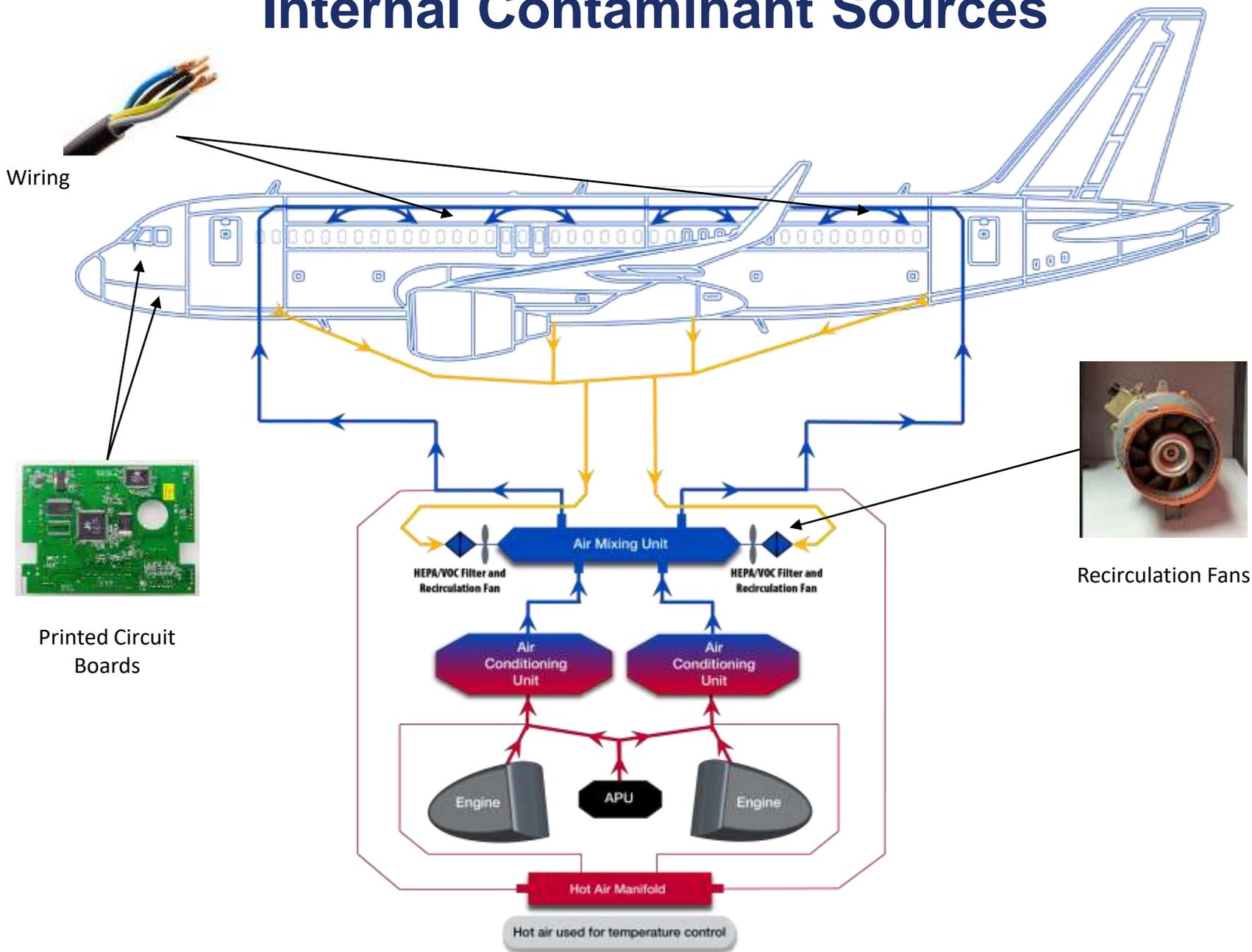
Airlines:

Air Canada
Air Wisconsin Airlines (U.S.)
Alaska Airlines (U.S.)
American Airlines (U.S.)
Delta Airlines (U.S.)
Endeavor Air (U.S.)
Hawaiian Airlines (U.S.)
Horizon Air (U.S.)
Jet Blue (U.S.)
KLM Royal Dutch Airlines (Netherlands)
Singapore Airlines (Singapore)
Southwest Airlines (U.S.)
Spirit Airlines (U.S.)
SunExpress Airlines (Turkey)
United Airlines (U.S.)
FedEx
UPS

Other Projects



Internal Contaminant Sources



Detection of Signatures from Internal Contaminant Sources (Univ. of MD Grant)

The results of the project will lead to the identification of technology that can identify indoor contaminants resulting from overheated fans or wiring in the Flight Deck area.

The project seeks to identify potential sensors that could:

- detect signatures/significant markers (e.g., certain classes of particulates and/or chemical species) from system and/or component failures in the Flight Deck
- identify signatures/markers that could potentially adversely affect (i.e., masking a measurement or triggering a false warn) other airplane systems or sensors (e.g., optical or ionization smoke detectors; cabin air quality or bleed contaminant sensors; etc.)



MSEM 160 E-nose



Bosch BME 688

Cabin Air Contaminant Detection



Inside 747SP Cabin

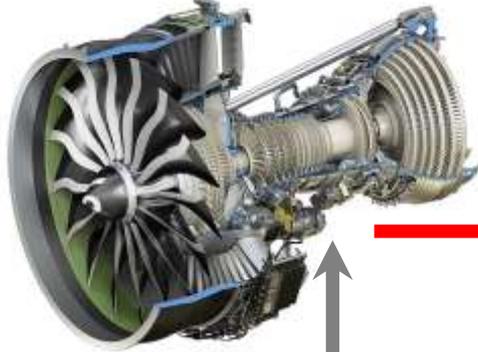


Instrumentation/monitoring inside cabin

Instrumentation

Particle detectors

Engine



Inject

Engine Oil or Hydraulic Fluid

Inject



APU

Pre-cooler



Ozone Converter

Heat Exchanger

Air Cycle Machine

Coalescer

Plenum

Dump to atm

Air Conditioning Cart



Cabin Air Quality Test Team



Questions?

